Sherborn (author of 'Index Animalium') that the work was actually issued on April 18th, 1826.

"*Tabanus parvus*, n. sp." (p. 69).—In size and general appearance, as also in the width of the *front*, this small species closely resembles *T. anellosus*, Summers (Ann. & Mag. Nat. Hist. ser. 8, vol. x., Aug. 1912, p. 226), the typical series of which was also taken at Port Darwin by Dr. C. L. Strangman, the discoverer of *Tabanus parvus* at the same place. The latter species can, however, be distinguished from *T. anellosus* by the expanded portion of the third joint of the antenna being shorter and deeper, by the terminal annuli of the same joint being tawny-ochraceous like the rest of the joint, instead of dark brown, by the existence of a long appendix to the anterior branch of the third longitudinal vein, and by all coxæ, femora, and tibiæ being ochraceous-buff, whereas in *T. anellosus* the coxæ are grey, all the femora greyish clove-brown, and the front tibiæ clove-brown except at the base. Judging from an examination of the paratype of *T. parvus* kindly presented to the National Collection by Mr. Taylor, the description of the coxæ, femora, and tibiæ of this species as "clove-brown" is extremely misleading.

XXVIII.—*Report on the Annelida Polychæta collected in the North Sea and adjacent parts by the Scotch Fishery Board Vessel 'Goldseeker.'*—Part II. Nephthydidæ *to* Hesionidæ. By JAMES W. PRYDE, M.A., Walker Trust Research Scholar, Gatty Marine Laboratory, St. Andrews.

[Plate XI.]

THE following report, which includes the Nephthydidæ, Phyllodocidæ, and Hesionidæ, is a continuation of that begun by Mr. William Small, M.A., B.Sc., in 1912 (Ann. & Mag. Nat. Hist. (8) vol. x. p. 165, 1912).

The Nephthydidæ are well represented, and out of the ten species accounted British by Prof. M'Intosh, six have been found to be present in the North Sea. The Phyllodocidæ are but sparsely represented by a single species, while the Hesionidæ show representatives of two genera out of the four that are British. They occur in numerous hauls at various depths and at various stations ranging from shallow water to 10 fathoms. For the only representative of the Phyllodocidæ no depth can be given, as the label belonging to the tube has been lost, probably in the disastrous fire which took place in the laboratory in June 1913, when much valuable material was lost. 24 fathoms is the greatest depth at which Hesionidæ were obtained, although they were found in numerous hauls.

No lists of synonyms have been given, but they can be obtained from Prof. M'Intosh's Monograph (vol. ii. part i., 1908) under the heads of the various species, and they occupy a considerable amount of space.

The specimens examined were part of the collection kindly handed over to Mr. Small by Prof. D'Arcy W. Thomson. I have to thank Prof. M'Intosh for giving me from his own collection a typical series of slides of each group.

Family **Nephthydidæ.**

Genus NEPHTHYS, Cuvier, 1817.

Nephthys cæca, O. F. Müller, 1776.

This species was found in many hauls, and only in one (haul 11191, at Station 18 A) were there not more than one brought to the surface. In haul 187 forty-two were obtained at a depth between 545 and 788 m. This abundance agrees, as far as the North Sea is concerned, with the statement in the Monograph (1908, vol. ii. part i. p. 10), which says that this annelid is common everywhere around the shores of Britain.

Many of the specimens are small, but some are of moderate size. In many cases the lamellæ of the feet were destroyed by being scorched by the fire, while the specimens themselves were rendered hard and brittle. On the feet of those which remained unhurt were found several thecate Infusoria [*] and structures which resembled minute *Loxosomæ.*

The largest specimen had 148 segments, but in some of the smaller ones the segments numbered from 60–80. The body-wall was very muscular, and the oblique muscles were boldly outlined.

The gut was examined, and was found to contain diatoms, mud, sand-particles, and small pieces of what seemed to be animal tissue. No specimen showed an extruded proboscis.

Prof. Izuka [†] found this annelid in Japanese waters in

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[*] *Cf.* 'Challenger' Report on Annelida, pls. xiv. A. and xxiii. A.

[†] *Vide* 'Errantiate Polychæta of Japan,' by Prof. A. Izuka.

Mororan Harbour, and Adolf Heinen * found it at no less than thirteen stations in the North Sea. Station 58° 48′ N., 1° 20′ E., is his most northerly record, while Station 52° 50′ N., 3° 20′ E., is his most southerly. The most northerly record in the 'Goldseeker' expedition is Station 18 A, 60° 57′ N., 5° 47′ W. On the other hand, the most southerly point is Station 39 B, 57° 59′ N., 0° 57′ E.

Nephthys hombergii, Lamarck, 1818.

It is stated in the Monograph (vol. ii. part i. p. 19) that this annelid is found from Shetland to the Channel Islands, along both shores, and occurring alike in the tidal region and in deep water; but only six are found in this collection, three being obtained at a depth of 10 fathoms at Olliberry, Shetland. They were dredged along with *Notophyllum foliosum*, Sars, and *Harmothoë imbricata*, Linn. In the 'Porcupine' expedition of 1896 this species was dredged at a depth of 96 fathoms.

The largest specimen had 89 segments, but a specimen having 130 segments is mentioned in the Monograph, while Heinen adds: "Audouin und Milne-Edwards geben für die grössten Tiere sogar 200 Segmente an." The body has similar proportions to that of *N. cæca*, but is considerably less. The colour has faded, however, owing to immersion in spirit, but fresh specimens have an iridescent pinkish body, bluish white along the median line dorsally and whitish laterally, with bright red branchiæ along the sides †.

The foot differs from that of *N. cæca*, for the dorsal lamella is smaller, while the ventral lamella is more ovoid than pointed. The most diagnostic feature is the presence of a prominent papilla below the point of the spine in *N. hombergii*. The gut contained diatoms and small crustacean larvæ. From the Reports on the 'Errantiate Polychæta of Japan,' a country in almost the same latitude as our own, there is no mention of *N. hombergii*, nor is it recorded in the 'Challenger' Reports.

Nephthys hombergii, var. *kersivalensis*, M'Intosh.

In haul 187 two specimens of this annelid were obtained at a depth of 545–788 m. It differs from *N. hombergii*, Lamarck, in having the ventral lamella in the anterior third much less, and in having a more decided decrease in both posterior lamellæ. This annelid, according to the Monograph, is merely a younger stage in the growth of *N. hombergii*.

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* *Vide* 'Die Nephthydeen und Lycorideen der Nord- und Ostsee,' by Adolf Heinen.

† See 'Monograph,' vol. ii. part i. pl. xliii. fig. 3.

From Heinen's Karte 1 *N. hombergii* is seen to have a wide distribution, varying from 53° 52′ to 59° 9′ N., and 1° 21′ to almost 8° E. From the 'Goldseeker' collection, however, this annelid is confined to the neighbourhood of the Shetland Isles.

Nephthys incisa, Malmgren, 1865.

Haul 8215 alone contained this annelid, when eight specimens were obtained. The animals were small, the largest numbering about 50 segments. The haul was made at Station 8, 61° 35′ N., 0° 21′ E., but the depth at which they were obtained is not given. In the 'Porcupine' Expedition, 1869, this annelid was found from 6–80 fathoms. In one the proboscis was extruded and showed twenty-two rows of minute papillæ; but the short median cirrus, which, according to Malmgren, occurs in the smooth distal region both dorsally and ventrally, was not seen. On the branchiæ were structures resembling minute *Loxosomæ*, but the parasites were too contracted to make out their structure properly. No specimen was mature, and the gut showed sand and sponge-spicules.

There is no mention of this annelid in the 'Challenger' Reports nor in 'Errantiate Polychæta of Japan,' but Heinen obtained several at various stations in the German North Sea. The most northerly point at which he obtained this annelid was 57° 52′ N., 4° 52′ E.; but the 'Goldseeker' dredged it at Station 8, 61° 35′ N., 0° 20′ E.

Nephthys ciliata, O. F. Müller, 1789.

This annelid, from various reports, is common on muddy ground or in sandy mud, but only one specimen is present in the collection. O. F. Müller procured it in the first instance from the Faröe Islands, but it stretches to Greenland and to the eastern Canadian waters, as well as to America. Malmgren records it from Spitzbergen, Scandinavia, and Iceland; Ehlers, both shores of the Atlantic; and Théel gives Kara Sea and Nova Zembla. It is not mentioned in the 'Challenger' Reports, but Prof. Izuka notes it as occurring in Japanese waters. Heinen, too, has no record of it in his North Sea Collection, but remarks, "Alle mir vorliegenden Tiere stammten aus Ostsee und Kattegat."

The present specimen was obtained at Station 18 A, 60° 57′ N., 5° 47′ W., and at a depth of 384 m. It was taken along with *N. cœca* and some Lumbriconereidæ. The body has about 95 segments, and is slightly tapered anteriorly, more so posteriorly, and ends in a caudal cirrus. The foot * resembles that of *N. cœca*, but the lamellæ are not so well developed, and so the species can be readily differentiated. The tentacles, moreover, are more slender than those of *N. cœca*, and so another point of difference arises. The gut contained diatoms, mud, and small larvæ, many of which were fragmentary. The specimen was not mature.

Nephthys cirrosa, Ehlers, 1868.

Several fragments of this annelid were dredged at Station 7, 61° 06′ N., 2° 1′ E., at a depth of 15 fathoms, and all the fragments denote that the entire annelids were small. There is no mention of *N. cirrosa* in the 'Challenger' Reports. Izuka records none from Japanese waters, and Heinen makes no mention of any from his North Sea investigations. The Ray Society Monograph, however, gives the following as its habitat:—Channel Islands, Herm, Guernsey, and in sand under stones in Galway, Ireland (*M'Intosh*); shores of France, Dinard and Croisic (*Baron de St. Joseph*); Norway (*Canon Norman*); Strait of Magellan (*Ehlers*).

There was nothing of outstanding interest about any of the fragments, and none showed any signs of maturity.

Nephthys grubei, M'Intosh, 1900.

Only one specimen of this annelid was obtained. It occurred in haul 187 and was trawled at the depth of 545–788 m. In the Monograph (vol. ii. part i. p. 33) this creature was found at a depth of 540 fathoms in the 'Knight Errant' Expedition. No record of it occurs in Prof. Izuka's work nor in 'Challenger' Reports. The specimen is very small and very much shrivelled, having been badly scorched in the fire. Identification was made from the structure of the feet and the bristles.

Family **Phyllodocidæ**.

Genus NOTOPHYLLUM, Œrsted, 1843.

Notophyllum foliosum, Sars, 1835.

The tube containing this specimen, which is the only representative of the Phyllodocidæ, had no label, and conse-

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* *Vide* 'Monograph,' vol. ii. part i. pl. lxvi. figs. 1 & 9.

quently no depth nor locality can be given. The animal itself is linear, and the body has about 98 segments. The dorsal surface is light brown and slightly iridescent, while the ventral surface is darker in colour, and each segment has minute dark spots. No groove is present in the ventral surface of the specimen, and the dorsal lamellæ of the feet, moreover, were not so prominent as is mentioned in the Monograph. However, it (dorsal lamella) was considerably larger than the ventral lamella, and no spines were seen on the spinigerous papilla at its outer border. The Monograph mentions that the spinigerous papilla may bear a few (about two) smooth tapering bristles, and Malmgren adds that the large, more or less horizontal dorsal cirrus is elliptico-subrectangular or unequally reniform. The ventral bristles spring from the tip of the lobe, and are characteristic of the species.

The Monograph states that this species is more sluggish than the ordinary examples of the Phyllodocidæ, and, when irritated, coils its body in a somewhat stiff manner. There is no mention of this species in the Reports of the 'Challenger' Expedition; but in Prof. Izuka's work *Notophyllum japonicum*, Maren., is described, and this species appears to approach the northern species very closely.

From the Monograph its habitat is given as:—Shetland (*J. G. J.*); Lamlash Bay, Arran (*Dr. Howden*); Bay of Galway, Ireland (*Dr. E. P. Wright*); St. Andrews Bay, deep-sea fishing-boats (*E. M.*); common in dredgings, Plymouth (*Allen*); Norway (*Œrsted, Sars, Norman,* and *Koren*); Sweden; Adriatic (*Sars*); Marseilles (*Marion*).

Family **Hesionidæ.**

Genus OPHIODROMUS, Sars, 1861.

Ophiodromus flexuosus, Della Chiaje, 1825.

Fifty-eight complete and an infinite number of fragments of this species were obtained in four hauls. The hauls were 8160, 2 miles E.N.E. of Rams Ness, at a depth of 100 m.; 152, off Ardmore Point, at a depth of 180 m.; 8265, at Station 41 A, 56° 48′ N., 1° 19′ E., at a depth of 94 m.; and 72, 3 miles west of Tarbet Ness, at a depth of 24 fathoms.

This annelid usually inhabits regions where there is grey mud or clay, and off the western coast of Britain has been found at depths varying from 4–125 fathoms. One or two have been found on the verge of extreme low water in Ardmaddy Bay. It is also found off the shores of Norway (*Sars*) and off the Mediterranean shores of France.

The largest specimen has about 60 segments and is fusiform in shape. The body dilates behind the head, reaches its maximum about the anterior third, and then tapers to the tail. The tail terminates in two moderately long slender cirri, while the dorsum has a lustrous brown colour, which is transversely banded at intervals with belts of fine iridescent blue. In the largest specimen nine such bands were seen, besides several minor streaks which become fainter and fainter posteriorly. When the animal was placed in spirit the colours instantly disappeared, while the animal itself broke up into fragments. The same thing, according to the Monograph, takes place on the immersion of the animal in fresh water or in impure sea-water.

Many specimens show an extruded proboscis, which is proportionately large, but is devoid of papillæ or jaws. In the extruded condition the proboscis is cylindrical, but in some there was a swollen basal region. The buccal opening is capable of great dilatation. No specimen showed signs of maturity.

Ophiodromus flexuosus does not appear in the 'Challenger' Reports, but an allied form, *Salvatoria kerguelensis*, is referred to. No mention of it is made by Prof. Izuka, of Japan.

Genus CASTALIA, Savigny, 1820.

Castalia fusca, Johnston, 1836.

This annelid was obtained in dredge 7 at a depth of 15 fathoms. In all there are five complete specimens and six fragments. The specimens are very small, the largest only measuring ¾ inch. They usually are found in much shallower water, for they occur between tide-marks at various points around the British shores. In Shetland they are common in the roots of tangles in the Laminarian region. Keferstein obtained this species at St. Vaast, Normandy, Claparède at Naples, Carus in the Mediterranean, and Marion at Marseilles; but there is no word of it in the Reports of the 'Challenger' Expedition nor in the 'Errantiate Polychæta of Japan.'

The specimens are reddish brown and have a well-marked dark line down the dorsum. This line is the dorsal blood-vessel. The segments number about 50, slightly narrowed in front, and then they narrow more and more towards the tail-region, which terminates in two slender cirri. One specimen had a short, cylindrical, and somewhat massive proboscis, but the filiform papillæ at the aperture were not present. The organ is well adapted for the predatory habits of the animal, and Dr. Johnston found that they devoured one another in confinement.

The Monograph mentions that Dr. Johnston considered the purplish hue, which is often seen in many specimens, spread rapidly all over the body when the animal is alarmed. However, it is further stated that, as this phenomenon occurred in April, it is possible that it may have been connected with the development of the ova. Sir J. Dalyell, in his experiments, found that the colour depended on the food.

Genus MEGALIA, Marion & Bobretsky, 1875.

Megalia assimilis, sp. n.

One fragment of this annelid, consisting of the head and seventeen segments, was taken in dredge 104 at the depth of 75 m. at Station 41 B, lat. 56° 42′ N., long. 0° 35′ E. In the Monograph an allied species, *M. perarmata* (Marion & Bobretsky), is not uncommon in dredgings from Queen's Ground, Asia Shore, and Milbay Channel, Plymouth. Marion and Bobretsky found it under stones and in prairies of *Posidonia*, and in the coralline region, Marseilles.

Head somewhat quadrangular, with four eyes of considerable size, the anterior pair being the larger and placed somewhat widely apart. The pairs are situated near each other towards the middle region. In *M. perarmata*, according to Marion and Bobretsky *, the anterior pair have lenses, but in this species there is some uncertainty. The tentacles are long and smooth, curved in this specimen, and are attached over the palps, which are smooth, stout, and biarticulate. The buccal region lies beneath the head. Six pairs of articulated tentacular cirri, most of which in this specimen have been broken, are directed forward, and each has a spine at its base.

Body about 5 mm. in length (7–8 mm. in *M. perarmata*), and tapers posteriorly. The anal segment is absent. The colour is yellow, but brown spots are prominent at the base of each dorsal cirrus and brown patches appear on the head. Transverse striations occur on the dorsal surface at the bases of the feet, up several of which the striæ are continued. The ventral surface is lighter in hue, and on it also are minutely transverse and somewhat irregular striæ. The Monograph (vol. ii. part i. p. 137) states in reference to *M. perarmata*:

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* *Vide* 'Annales des Sciences Naturelles,' sér. vi. vol. ii. pl. vii. fig. 16.

"The dorsal surface of the segments shows under the microscope transverse striæ, somewhat irregularly arranged." The proboscis is not extruded, so no comparison with *M. perarmata* can be made. The alimentary canal is almost straight and uniform for the first seven setigerous segments, and then it assumes a sacculated appearance posteriorly.

The foot in this specimen resembles that of *M. perarmata* in being uniramous, having the long cirrus dorsally with a spine in the ceratophore, and a very bluntly conical setigerous region, with a small papillæ supported by two fairly stout spines, and carrying a fan-shaped tuft of translucent bristles. The articulations of the cirrus, however, are not so large as, but are more numerous than, those of *M. perarmata*. Most of the bristles have slightly curved shafts, which are striated and have a bevelled appearance at the tip, the distal end of which is somewhat blunt, and in several of those whose terminal pieces are deeply serrated is slightly cleft (see fig. 2). The terminal pieces vary from medium to long. In all the tip is hooked, and a secondary process is present beneath. The tip of the bristles in *M. perarmata*, on the other hand, is not so distinct, for it is only in the shorter forms that the minute structure is distinguishable. The edges of the blades, however, present great differences. In *M. perarmata* the edge is minutely serrated and the serrations are the same for every bristle (see fig. 3); but in this form the serrations are very large and, in several of the larger blades, resemble the deep serrations in the blade of *Castalia fusca* (see figs. 1 & 2). Thus two distinct forms of serration are present.

In many respects the animal agrees with *M. perarmata*, but the distal end of the shafts and the serrations of the blades are so divergent and diagnostic, that one is compelled to consider it as a new species, allied, however, to *M. perarmata*. The specimen is not mature. Moreover, it is an interesting feature that the distribution of the genus has been extended northward, for not a single example of *M. perarmata* has been found, up to date, north of Plymouth.

Bibliography.

HEINEN. 1911. 'Die Nephthydeen und Lycorideen der Nord- und Ostsee.'
IZUKA. 1912. 'The Errantiate Polychæta of Japan.'
MALMGREN. 1865. 'Nordiska Hafs-Annulater.' Stockholm.
MARION et BOBRETSKY. 1875. "Annelides du Golfe de Marseille." Annales des Sciences Naturelles, sixième série, tome ii.
M'INTOSH. 1874. Trans. Zool. Soc. vol. ix. part 7. "On British Annelida."

M'Intosh. 1885. 'Challenger' Reports, Zoology, vol. xii. "Annelida Polychæta."

——. 1908. 'Monograph of British Annelida.—Polychæta,' vol. ii. parts i. & ii. Ray Society.

EXPLANATION OF PLATE XI.

Fig. 1. Bristle (anterior) from fifteenth foot of *Megalia assimilis.* Enlarged.

Fig. 2. Bristle (posterior) from the fifteenth foot. Enlarged.

Fig. 3. Bristle of *Megalia perarmata,* De St. Jos., after M'Intosh. Enlarged.

XXIX.—*Description of a new Species of* Noctuidæ.

By Sir George F. Hampson, Bart., F.Z.S.

Catocalinæ.

7494 *a. Homæa addisonæ,* sp. n.

Head, thorax, and abdomen reddish brown mixed with blackish and ochreous; palpi with white ring at extremity of second joint; frons with white line below; tegulæ ochreous, with two blackish spots near base and band before tips; pectus and legs ochreous brown and greyish, the tarsi whitish. Fore wing reddish brown mixed with blackish and some grey; an indistinct sinuous ochreous subbasal line from costa to submedian fold; antemedial line indistinct, ochreous, becoming whitish at costa, sinuous and inwardly oblique; the medial area with a paler red-brown band with white marks at costa before, between, and beyond the double inwardly oblique and slightly sinuous black medial line, the outer line rather diffused; reniform with pale reddish centre defined by blackish, on which are three white striæ on its inner side, a small lunulate spot on its outer side at middle, an elongate spot beyond its upper extremity and two beyond its lower; postmedial line ochreous defined on inner side by black forming somewhat lunulate marks in the interspaces, slightly sinuous, excurved to vein 4, then incurved, a dark shade beyond it with dentate outer edge and some white points on costa; a black line before termen defined on inner side by grey except towards costa and slightly dentate at veins 6 to 3; a white line at base of cilia. Hind wing reddish brown mixed with blackish except on inner area, which has a series of black marks on vein 1; an indistinct double dark antemedial line ending at submedian fold; two slight elongate white spots beyond lower angle of cell, the lower minute; an indistinct double curved sinuous dark postmedial line